

What is claimed is:

1. A system development method comprising:
a step of inputting program descriptions which define a plurality of devices by employing a program language capable of describing parallel operations;
a step of converting the input program descriptions into an intermediate expression;
a step of generating parameters which satisfy a real-time restriction, for the intermediate expression; and
a step of synthesizing circuit descriptions which are based on a hardware description language, on the basis of the generated parameters.
2. A system development method as defined in claim 1, wherein the intermediate expression is a member selected from the group consisting of a concurrent control flow flag, a temporal automaton with a concurrent parameter, and a temporal automaton with parameters.
3. A system development method as defined in claim 2, wherein parametric model checking is performed for the parameter generation.
4. A system development method as defined in claim 3, wherein the real-time restriction is given by RPCTL.
5. A system development method as defined in claim 4, wherein the program descriptions define the devices by using a "run" method, and define clock synchronizations of the devices

by using barrier synchronizations.

6. A data processing system comprising:

a computer;

said computer inputting program descriptions which define a plurality of devices by employing a program language capable of describing parallel operations, converting the input program descriptions into an intermediate expression, generating parameters which satisfy a real-time restriction, for the intermediate expression, and synthesizing circuit descriptions which are based on a hardware description language, on the basis of the generated parameters.

7. A data processing system as defined in claim 6, wherein the program descriptions define the devices by using a "run" method and define clock synchronizations of the devices by using barrier synchronizations.